



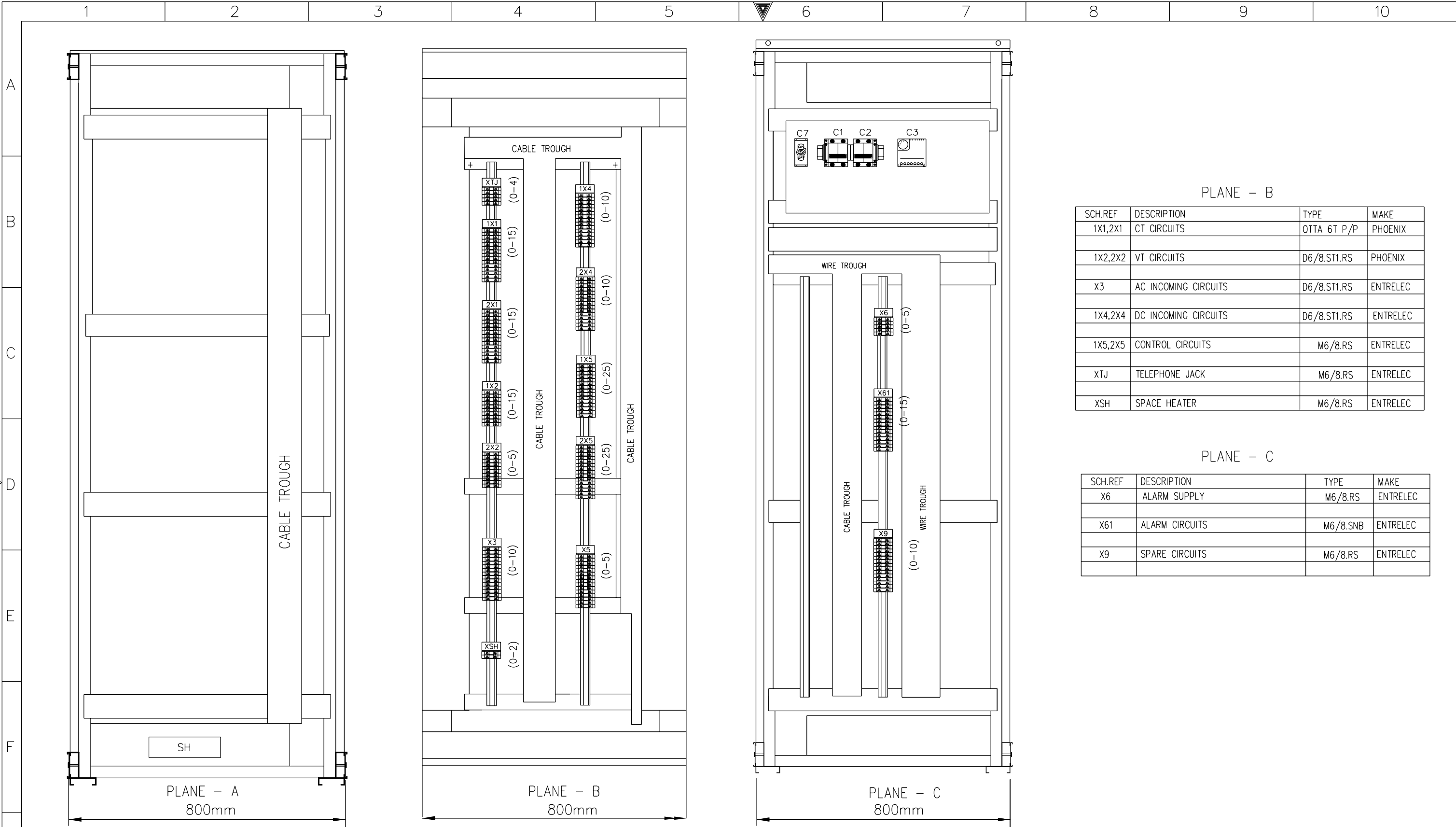


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	TITLE : Assembly Drawing – +CBP1 [CAPACITOR BANK1]																																																																																																
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PLANE – B

SCH.REF	DESCRIPTION	TYPE	MAKE
1X1,2X1	CT CIRCUITS	OTTA 6T P/P	PHOENIX
1X2,2X2	VT CIRCUITS	D6/8.ST1.RS	PHOENIX
X3	AC INCOMING CIRCUITS	D6/8.ST1.RS	ENTRELEC
1X4,2X4	DC INCOMING CIRCUITS	D6/8.ST1.RS	ENTRELEC
1X5,2X5	CONTROL CIRCUITS	M6/8.RS	ENTRELEC
XTJ	TELEPHONE JACK	M6/8.RS	ENTRELEC
XSH	SPACE HEATER	M6/8.RS	ENTRELEC

PLANE – C

SCH.REF	DESCRIPTION	TYPE	MAKE
X6	ALARM SUPPLY	M6/8.RS	ENTRELEC
X61	ALARM CIRCUITS	M6/8.SNB	ENTRELEC
X9	SPARE CIRCUITS	M6/8.RS	ENTRELEC

AS-BUILT BY \_\_\_\_\_ DATE \_\_\_\_\_

CONTRACT NO. 11131113/00

JOB ORDER NO. S-13656


ASSEMBLY DRAWING

13.8kV CAPACITOR BANK-1 PROT. PANEL

S/S 8709-132/13.8KV IN AL-KHARJ CITY

RIYADH SAUDI ARABIA

الشركة الوطنية لنقل الكهرباء



National Grid sa

INDEX

PLANT NO.

DRAWING NUMBER

SHEET NO.

SHTCONT.

REV. NO.

P

C421

CD-322951

G02G03

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14 08

FACTORY AS BUILT

DRAWN BY RIZ CHECKED BY KVR

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FOR APPROVAL

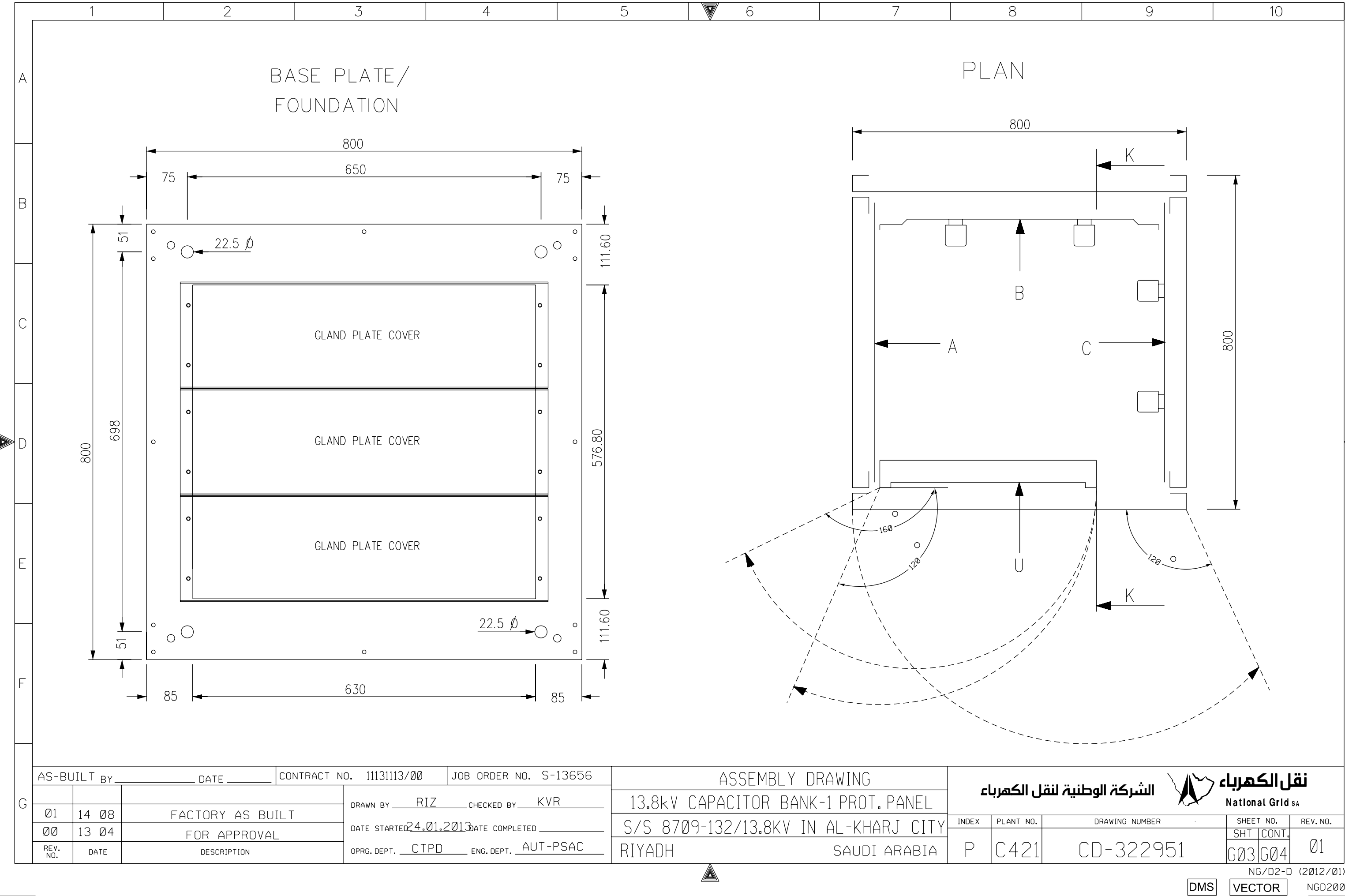
DATE STARTED 24.01.2013 DATE COMPLETED \_\_\_\_\_

REV. NO.

DATE

DESCRIPTION

OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC



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MANUFACTURING LABEL

**ABB**

ABB Automation Co.Ltd.

PROJECT

:

National Grid SA  
S/S 8709

ORDER REFERENCE

:

2875 RF S13656

YEAR OF MANUFACTURE:

:

2013

PANEL NO.

:

+CBP1

DRAWING NO.

:

S13656-CD-323952

MADE IN THE KINGDOM OF SAUDI ARABIA

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AS-BUILT BY \_\_\_\_\_ DATE \_\_\_\_\_

CONTRACT NO. 11131113/00

JOB ORDER NO. S-13656

01

14 08

FACTORY AS BUILT

00

13 04

FOR APPROVAL

REV. NO.

DATE

DESCRIPTION

DRAWN BY RIZ

CHECKED BY KVR

DATE STARTED 24.01.2013

DATE COMPLETED \_\_\_\_\_

OPRG. DEPT. CTPD

ENG. DEPT. AUT-PSAC


LIST OF APPARATUS

13.8kV CAPACITOR BANK-1 PROT. PANEL

S/S 8709-132/13.8KV IN AL-KHARJ CITY

RIYADH SAUDI ARABIA

الشركة الوطنية لنقل الكهرباء



National Grid sa

INDEX

PLANT NO.

DRAWING NUMBER

SHEET NO.

SHT

CONT.

REV. NO.

P

C421

CD-322951

L01

L02

01

NG/D2-D (2012/01)

DMS

VECTOR

NGD200





	1	2	3	4	5	6	7	8	9	10
A										
B	SR. NO.	LOCATION REF.	SCH REF.	D E S C R I P T I O N		SHT NO.	QTY.	TYPE	MAKE	ORDERING INFORMATION
	14	U27.307	74R2	DC SUPERVISION RELAY		221	1	RXSF1	ABB	RK 271 019-AN
			SPARE	AUX. VOLTAGE : 110-125V DC						
				CONTACTS : 1NO + 2NC PER COIL						
C	15	U39.5001	Q1	MCB 2 POLE 6A, FOR DC SUPPLY WITH 2NC AUX. CONTACT R1 ± SUPPLY		216	2	S282 UC K6	ABB	GH S282 0164 R0317
		U39.5002	Q2	MCB 2 POLE 6A, FOR DC SUPPLY WITH 2NC AUX. CONTACT R2 ± SUPPLY				S2-H02		GH S270 1916 R0003
	16	U39.5003	C01,C02	CONVENIENCE OUTLET 10A, 127V, 220V AC		211	1	USM45 & USMS45	LEGRAND	74140 & 74180
	17		DS	DOOR SWITCH FOR CONTROL OF CUBICLE INTERNAL ILLUM. LAMP		211	1	LS30P13B02	ABB	1SBV 010 213R 1202
D	18		IL	INTERNAL ILLUMINATION CUBICLE LAMP SUITABLE FOR 127V 60HZ SUPPLY		211	1	T4	SUNON	SP-20W
	19		C1,C2	MINIATURE CIRCUIT BREAKER, 2 POLE, 10A FOR CONVENIENCE OUTLET		211	2	S202P-P10	ABB	2CDS 252 001 R0427
				WITH AUXILIARY SWITCH, 1NO + 1NC CONTACTS				S2C-H11L		GH S270 1917 R0001
	20		SH	SPACE HEATER, 150W, 120V, 60Hz		211	1	RICA	GRUPPO	1FZEK006C001
E	21		C3	THERMOSTAT FOR SPACE HEATER, 5-60°C		211	1	SK 3110	RITTAL	SK 3110
	22		C7	ON/OFF SWITCH FOR SPACE HEATER		211	1	M2SS1-10B	ABB	1SFA 611 200 R1006
								MCBH-10		1SFA 611 605 R1101
	23	U39.5004	TJ	TELE PHONE JACK IGANG 4WIRE		211	1	EDF410	EDISON	EDF410
F										
G	AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		LIST OF APPARATUS		الشركة الوطنية لنقل الكهرباء National Grid sa	
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	REV. NO.	DATE	DESCRIPTION		OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC		RIYADH SAUDI ARABIA		P C421 CD-322951 L03L04	

NG/D2-D (2012/01)

DMS VECTOR

NGD200

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A		SR. NO.	LOCATION REF.	SCH. REF.	D E S C R I P T I O N		SHT NO.	QTY.	TYPE	MAKE	ORDERING INFORMATION			
		24		1X1	BOLT CONNECTING TERMINAL BLOCK DISCONNECTABLE FOR CT CIRCUIT		605	15	OTTA6T-P/P	PHOENIX	0790462			
				2X1			605	15						
		25		1X2	SPRING LOADED TERMINAL BLOCK DISCONNECTABLE FOR PT SUPPLY		605	10	D6/8.ST1.RS	ENTRELEC	1SNA 115 831 R0400			
				2X2			605	5						
B		26		X3	SPRING LOADED TERMINAL BLOCKS FOR AC SUPPLY		605	10	D6/8.ST1.RS	ENTRELEC	1SNA 115 831 R0400			
		27		1X4	SPRING LOADED TERMINAL BLOCK FOR DC CIRCUIT		605	10	D6/8.ST1.RS	ENTRELEC	1SNA 115 831 R0400			
				2X4			605	10						
		28		1X5	SPRING LOADED TERMINAL BLOCK FOR CONTROL CIRCUIT		605	25	M6/8.RS	ENTRELEC	1SNA 115 685 R1200			
				2X5			605	25						
		29		X5	SPRING LOADED TERMINAL BLOCK FOR CONTROL CIRCUIT		605	5	M6/8.RS	ENTRELEC	1SNA 115 685 R1200			
		30		X61	SRING LOADED TERMINAL BLOCK FOR STN.-COM ALARM PANEL		604	10	M6/8 SNB	ENTRELEC	1SNA 115 688 R2500			
C		31		XSH	SPRING LOADED TERMINAL BLOCK FOR SPACE HEATER		605	2	M6/8.RS	ENTRELEC	1SNA 115 688 R2500			
		32		XTJ	SPRING LOADED TERMINAL BLOCK FOR TELEPHONE JACK		605	4	M6/8.RS	ENTRELEC	ISNA 115 685 R1200			
		33		X9	SPRING LOADED TERMINAL BLOCK FOR SPARE CONTACT		605	10	M6/8.RS	ENTRELEC	ISNA 115 685 R1200			
D		34		X6	SPRING LOADED TERMINAL FOR ALARM		605	5	M6/8.RS	ENTRELEC	1SNA 115 688 R2500			
E														
F														
G		AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		LIST OF APPARATUS		<div>الشركة الوطنية لنقل الكهرباء</div> <div>نقل الكهرباء</div> <div>National Grid sa</div>				
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		01	14 08	FACTORY AS BUILT		DATE STARTED <u>24.01.2013</u> DATE COMPLETED _____		S/S 8709-132/13.8KV IN AL-KHARJ CITY		INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
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A			POWER SYSTEMS NETWORK MANAGEMENT PROTECTION AND SUBSTATION AUTOMATION SYSTEMS WBS NO: S-13656					ABB AUTOMATION COMPANY LTD. 414, AL-KHARJ ROAD SECOND INDUSTRIAL CITY RIYADH-11383 K.S.A																																																								
B																																																																
C	CONTRACTOR : ABB Contracting Company																																																															
	CLIENT : National Gridsa																																																															
D	PROJECT : CONSTRUCTION OF NEW 132/13.8kV SS 8709 IN AL-KHARJ CITY																																																															
	SUBSTATION : S/S 8709																																																															
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LEGENDS

±R1  
±R2  
±R3  
±IT  
FL  
BB RS±  
BB CBF±/CBF±

DC SUPPLY – MAIN PROTECTION  
DC SUPPLY – SECONDARY PROTECTION  
DC SUPPLY – BACK UP PROTECTION  
DC SUPPLY – INTER TRIP  
DC SUPPLY – FLASHING CIRCUIT  
DC SUPPLY – BUS BAR – PROTECTION RESET  
DC SUPPLY – CBF PROTECTION

R  
CR  
ECC  
LOCAL  
REMOTE

RESET BUS – ALARM SYSTEM  
CONTROL ROOM  
ENERGY CONTROL CENTRE  
THE LOCATION OF CONTROLLED DEVICE  
ANY OTHER LOCATION NOT LOCAL

ON  
OFF  
A  
T  
S  
CS  
CT  
LS  
LT  
LC  
LO  
RO

CB NORMALLY OPEN AUXILIARY CONTACT  
CB NORMALLY CLOSED AUXILIARY CONTACT  
COMMON  
TEST POSITION  
SERVICE POSITION  
CLOSE IN SERVICE POSITION  
CLOSE IN TEST POSITION  
LOCAL SERVICE  
LOCAL TEST  
LOCAL CLOSE  
LOCAL OPEN  
REMOTE OPEN

NOTES

LABELS  
WHITE LABEL WITH BLACK LETTERING WILL BE PROVIDED FOR ALL MOUNTED APPARATUS EQUIPMENT IDENTIFICATION AND FUNCTION REFERENCE LABEL WILL BE PROVIDED FOR FRONT MOUNTED EQUIPMENTS OF THE PANEL AND EQUIPMENT IDENTIFICATION LABEL WILL BE PROVIDED FOR INTERNALLY MOUNTED EQUIPMENTS

LUGS  
A. CT CIRCUITS– RING TYPE  
B. OTHER CIRCUITS – SPADE TYPE

FERULLING  
YELLO TUBE 3.2 mm FOR 1.5SQ mm WIRES AND 4.2 FOR 2.5 SQ mm WIRES ( AS PER 31 – TMSS–1, RE.0 )

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FOR 132kV RELAY & CONTROL, PROTN. PANELS

TS

17A

TS

18A

17B

18A

TS-17B/X4

21-8/TS-18A

+

+

X4-5/TS-17B

X3-7/21-4

TB X4

TB X3

AS PER IEC-391 FIG 14a (W/O SUPPLEMENTARY/IDENTIFICATION MARK)

FOR 132kV PANELS INTERPANEL WIRING

PANEL REF.: +R03.1

X6

5

X6: 5/+R03.2-X6:10

X6: 10/+R03.1-X6:510

PANEL REF.: +R03.2

X6

510

AS PER IEC-391 FIG 14d (W/O SUPPLEMENTARY/IDENTIFICATION MARK)

WIRES –  
PVC insulated, stranded,  
coaled annealed copper  
conductor graded for 1000V

LUGS –  
Pre-Insulated

a. CT Circuits – 2.5 Sqmm PVC Yellow colour

b. VT Circuits – 1.5 Sqmm PVC Red colour

c. DC, & CONTROL Circuits – 1.5 Sqmm PVC Grey colour

d. Alarm Circuits – 1.0 Sqmm PVC Blue colour

e. AVC & AC Circuits – 2.5 Sqmm PVC Black colour

f. Earth Circuits – 2.5 Sqmm PVC Yellow/Green colour

a( CT Circuits – Ring type

b( Other Circuits – Spade type

AS-BUILT BY \_\_\_\_\_ DATE \_\_\_\_\_

CONTRACT NO. 11131113/00

JOB ORDER NO. S-13656

01

14 08

FACTORY AS BUILT

00

13 04

FOR APPROVAL

REV. NO.

DATE

DESCRIPTION

DRAWN BY RIZ

CHECKED BY KVR

DATE STARTED 24.01.2013

DATE COMPLETED

OPRG. DEPT. CTPD

ENG. DEPT. AUT-PSAC

FERRULE AND WIRING DETAILS

13.8kV CAPACITOR BANK-1 PROT. PANEL

S/S 8709-132/13.8KV IN AL-KHARJ CITY

RIYADH SAUDI ARABIA

الشركة الوطنية لنقل الكهرباء

نقل الكهرباء

National Grid sa

INDEX P

PLANT NO. C421

DRAWING NUMBER CD-322952

SHEET 014

CONT. 015

REV. NO. 01

NOTE:1 ADDITIONAL MARKING AS APPLICABLE

NOTE:2 FERRULE NUMBERING WILL BE BLACK LETTERS ON YELLOW TUBE

3.2 mm for 1.5 sq mm wires and

4.2 mm for 2.5 sq mm wires

( As per 31-TMSS-1, REV 0 )

NOTE:3 STARTING POINT OF THE FERRULE LEFT TO RIGHT

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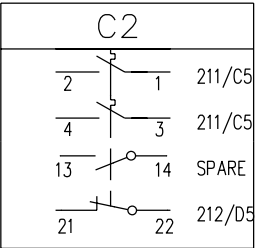
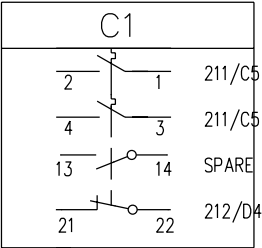
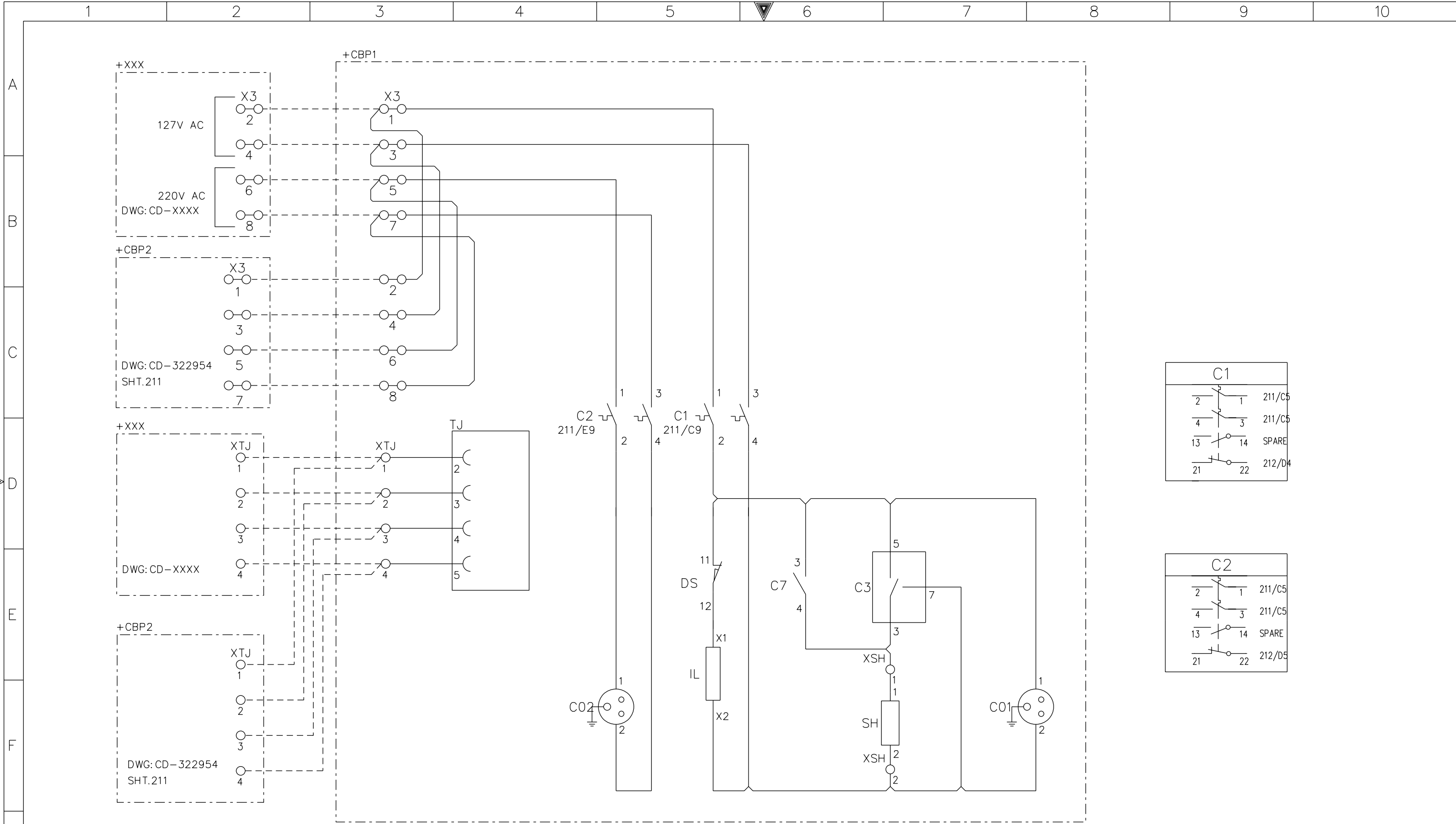
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AS-BUILT BY _____ DATE _____			CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		DRAWING REFERENCES			<div>الشركة الوطنية لنقل الكهرباء</div> <div>نقل الكهرباء</div> <div>National Grid sa</div>																																																																
			DRAWN BY <u>RIZ</u> CHECKED BY <u>KVR</u>		13.8kv CAPACITOR BANK-1 PROT. PANEL			INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.																																																														
	01	14 08	FACTORY AS BUILT		DATE STARTED <u>24.01.2013</u> DATE COMPLETED _____						SHT	CONT.																																																														
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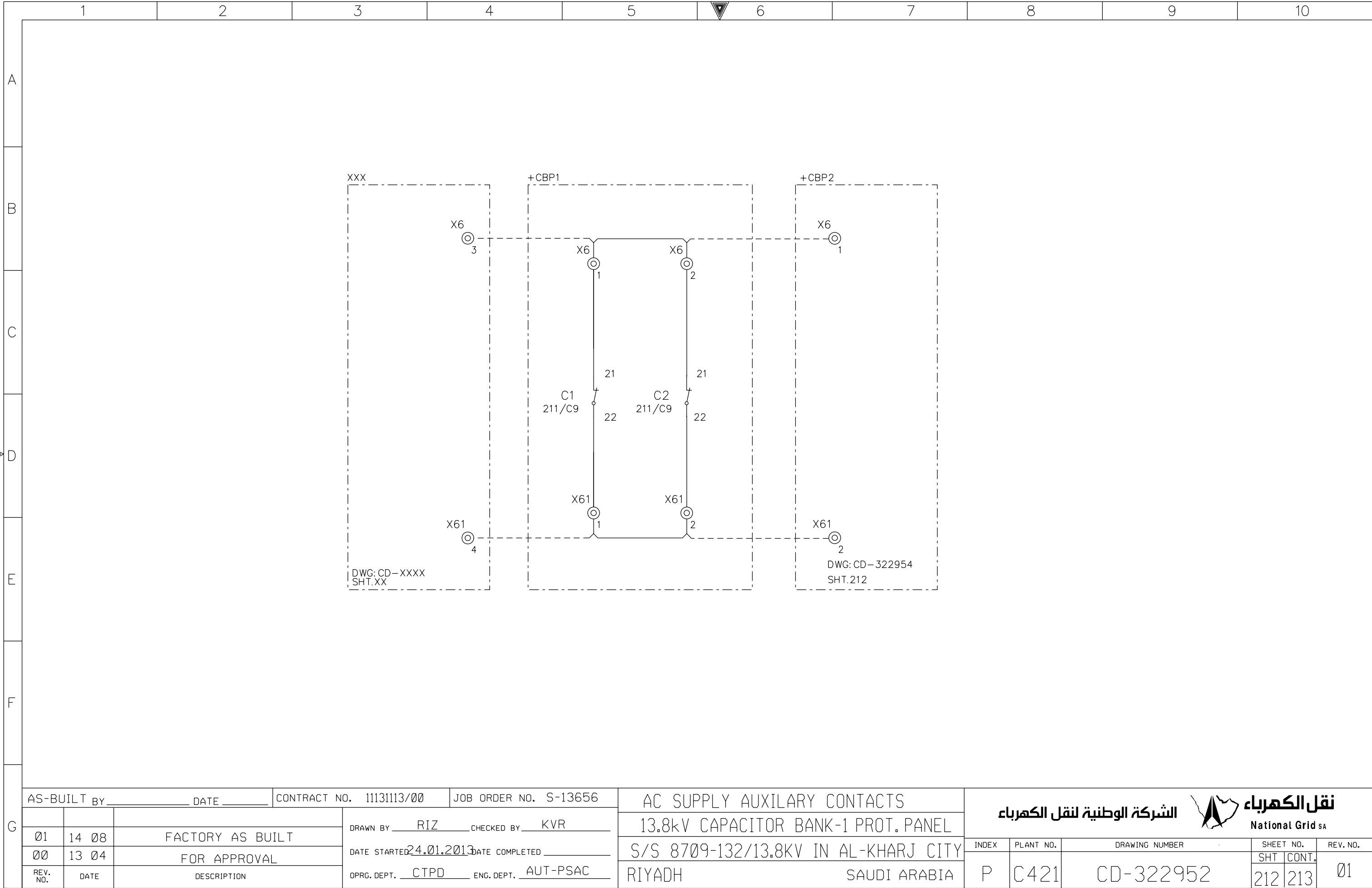


PROTECTION & SUBSTATION  
AUTOMATION

S/S 8709-132/13.8KV IN AL-KHARJ CITY  
RIYADH SAUDI ARABIA



G	AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		AC SUPPLY FOR ILLUMINATION & POWER SOCKET		<div><div></div><div>نقل الكهرباء</div><div>National Grid SA</div></div> <div>الشركة الوطنية لنقل الكهرباء</div>					
							13.8kV CAPACITOR BANK-1 PROT. PANEL							
	01	14 08	FACTORY AS BUILT		DRAWN BY RIZ CHECKED BY KVR		S/S 8709-132/13.8KV IN AL-KHARJ CITY							
	00	13 04	FOR APPROVAL		DATE STARTED 24.01.2013 DATE COMPLETED _____		RIYADH SAUDI ARABIA							
	REV. NO.	DATE	DESCRIPTION		OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC				INDEX	PLANT NO.	DRAWING NUMBER		SHEET NO.	
								P	C421	CD-322952		SHT 211	CONT. 212	01



AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00	JOB ORDER NO. S-13656	AC SUPPLY AUXILARY CONTACTS		<div>الشركة الوطنية لنقل الكهرباء</div> <div>نقل الكهرباء</div> <div>National Grid sa</div>					
01	14 08	FACTORY AS BUILT	DRAWN BY RIZ CHECKED BY KVR	13.8kV CAPACITOR BANK-1 PROT. PANEL		INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.		REV. NO.
00	13 04	FOR APPROVAL	DATE STARTED 24.01.2013 DATE COMPLETED _____	S/S 8709-132/13.8KV IN AL-KHARJ CITY		P	C421	CD-322952	SHT	CONT.	01
REV. NO.	DATE	DESCRIPTION	OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC	RIYADH SAUDI ARABIA					212	213	

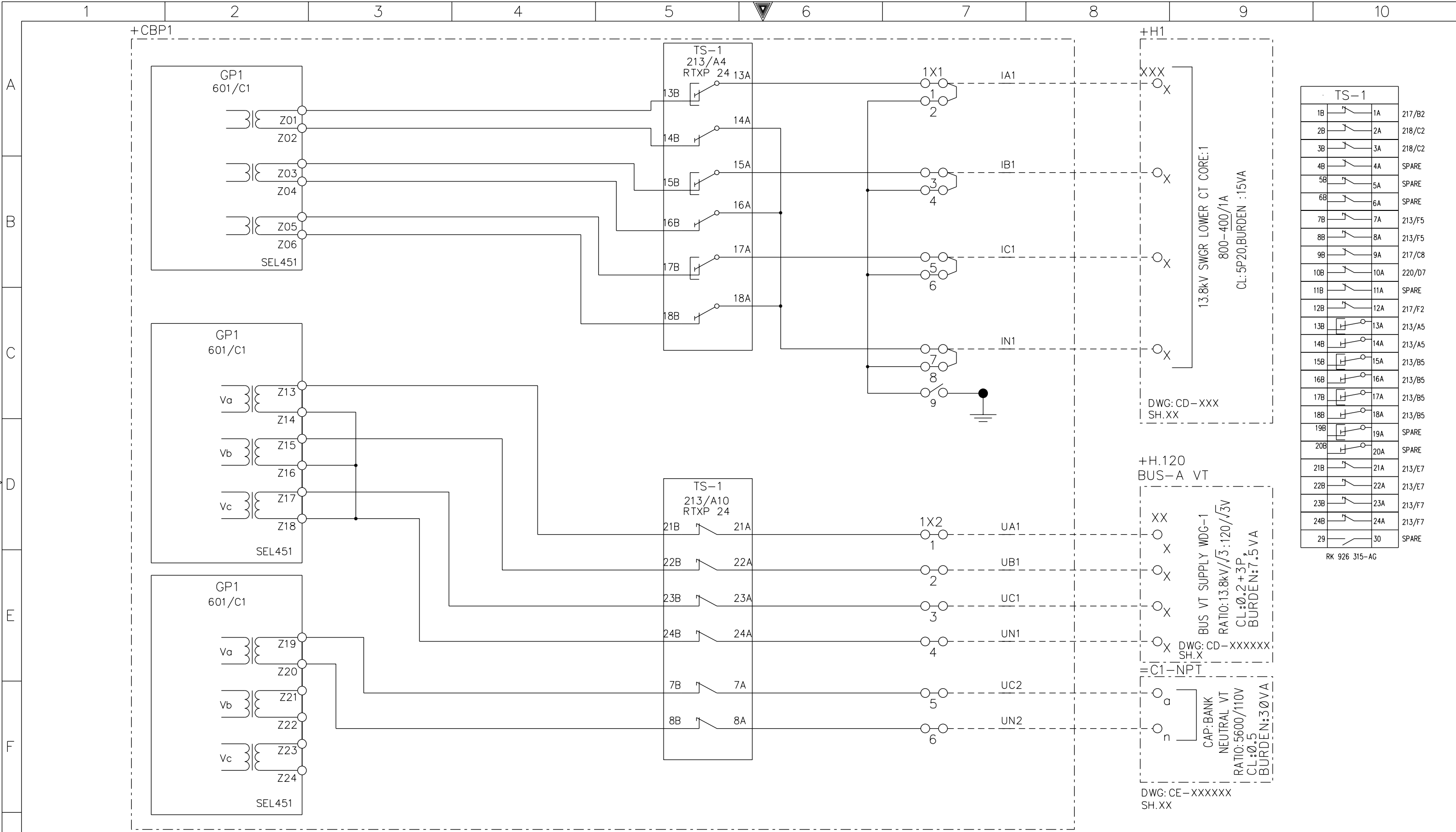
NG/D2-D (2012/01)

DMS

VECTOR

NGD200

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TS-1		
1B	1A	217/B2
2B	2A	218/C2
3B	3A	218/C2
4B	4A	SPARE
5B	5A	SPARE
6B	6A	SPARE
7B	7A	213/F5
8B	8A	213/F5
9B	9A	217/C8
10B	10A	220/D7
11B	11A	SPARE
12B	12A	217/F2
13B	13A	213/A5
14B	14A	213/A5
15B	15A	213/B5
16B	16A	213/B5
17B	17A	213/B5
18B	18A	213/B5
19B	19A	SPARE
20B	20A	SPARE
21B	21A	213/E7
22B	22A	213/E7
23B	23A	213/F7
24B	24A	213/F7
29	30	SPARE

RK 926 315-AG

AS-BUILT BY \_\_\_\_\_ DATE \_\_\_\_\_ CONTRACT NO. 11131113/00 JOB ORDER NO. S-13656

G	01	14 08	FACTORY AS BUILT	DRAWN BY RIZ CHECKED BY KVR
	00	13 04	FOR APPROVAL	DATE STARTED 24.01.2013 DATE COMPLETED _____
	REV. NO.	DATE	DESCRIPTION	OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC

CT&VT CIRCUITS-GP1 PROT N  
13.8kV CAPACITOR BANK-1 PROT. PANEL  
S/S 8709-132/13.8KV IN AL-KHARJ CITY  
RIYADH SAUDI ARABIA

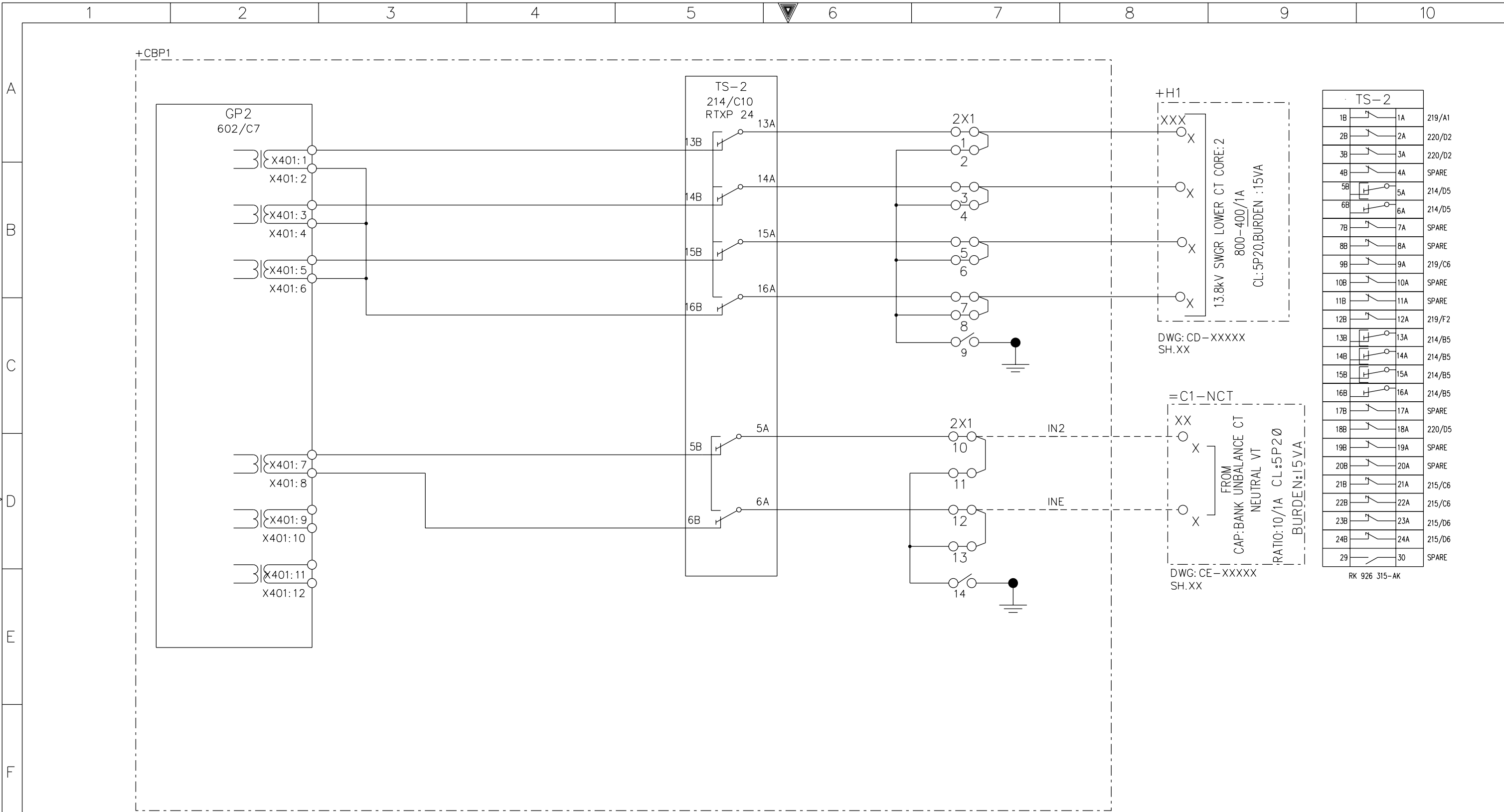
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				01

NG/D2-D (2012/01)

DMS

VECTOR

NGD200



TS-2		
1B	1A	219/A1
2B	2A	220/D2
3B	3A	220/D2
4B	4A	SPARE
5B	5A	214/D5
6B	6A	214/D5
7B	7A	SPARE
8B	8A	SPARE
9B	9A	219/C6
10B	10A	SPARE
11B	11A	SPARE
12B	12A	219/F2
13B	13A	214/B5
14B	14A	214/B5
15B	15A	214/B5
16B	16A	214/B5
17B	17A	SPARE
18B	18A	220/D5
19B	19A	SPARE
20B	20A	SPARE
21B	21A	215/C6
22B	22A	215/C6
23B	23A	215/D6
24B	24A	215/D6
29	30	SPARE


RK 926 315-AK

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AS-BUILT BY _____ DATE _____			CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656	
01	14 08	FACTORY AS BUILT	DRAWN BY RIZ CHECKED BY KVR			
00	13 04	FOR APPROVAL	DATE STARTED 24.01.2013 DATE COMPLETED _____			
REV. NO.	DATE	DESCRIPTION	OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC			

CT CIRCUITS-GP2 PROTN					
13.8kV CAPACITOR BANK-1 PROT. PANEL					
S/S 8709-132/13.8KV IN AL-KHARJ CITY					
RIYADH SAUDI ARABIA					

الشركة الوطنية لنقل الكهرباء

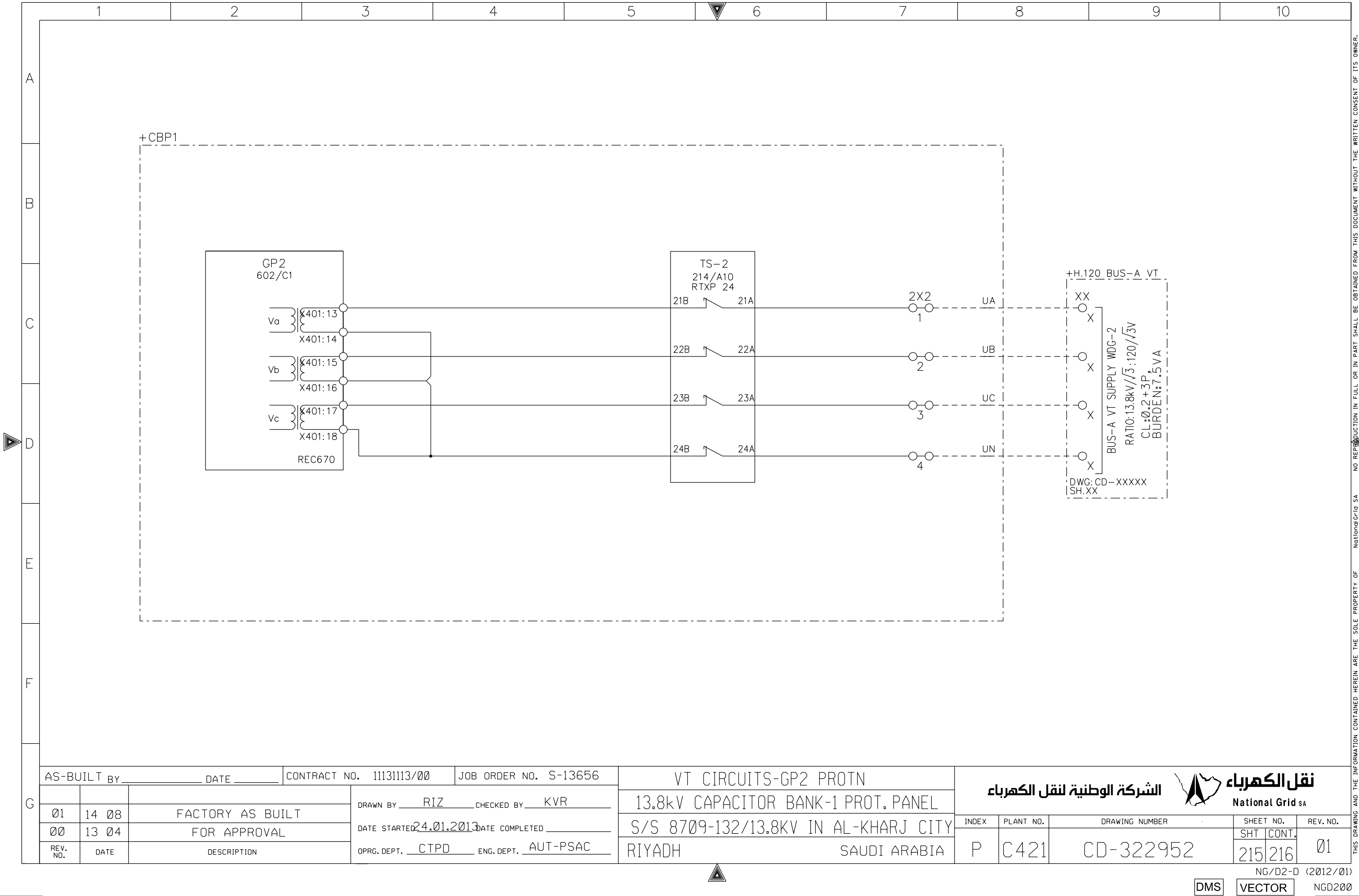


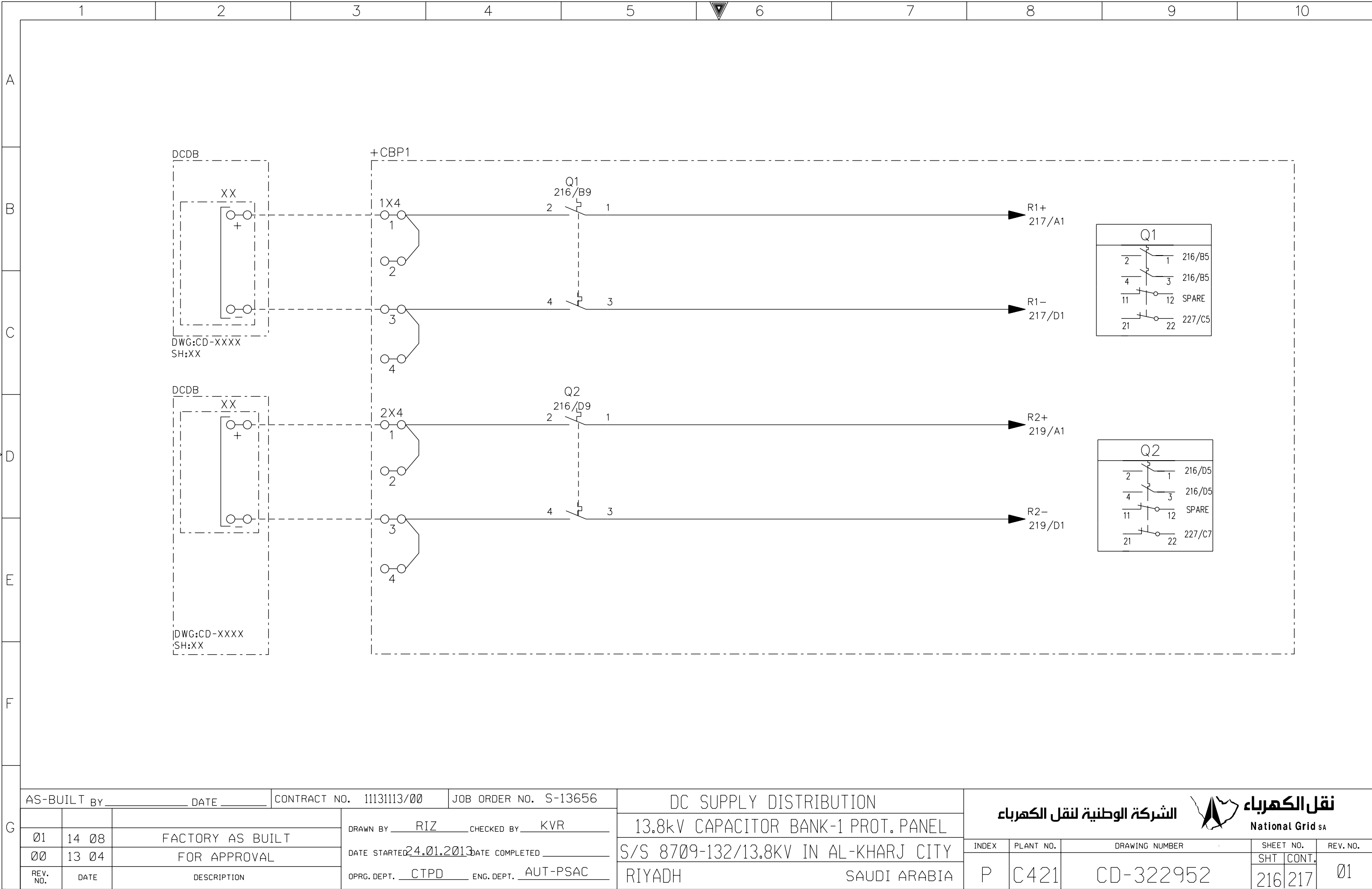
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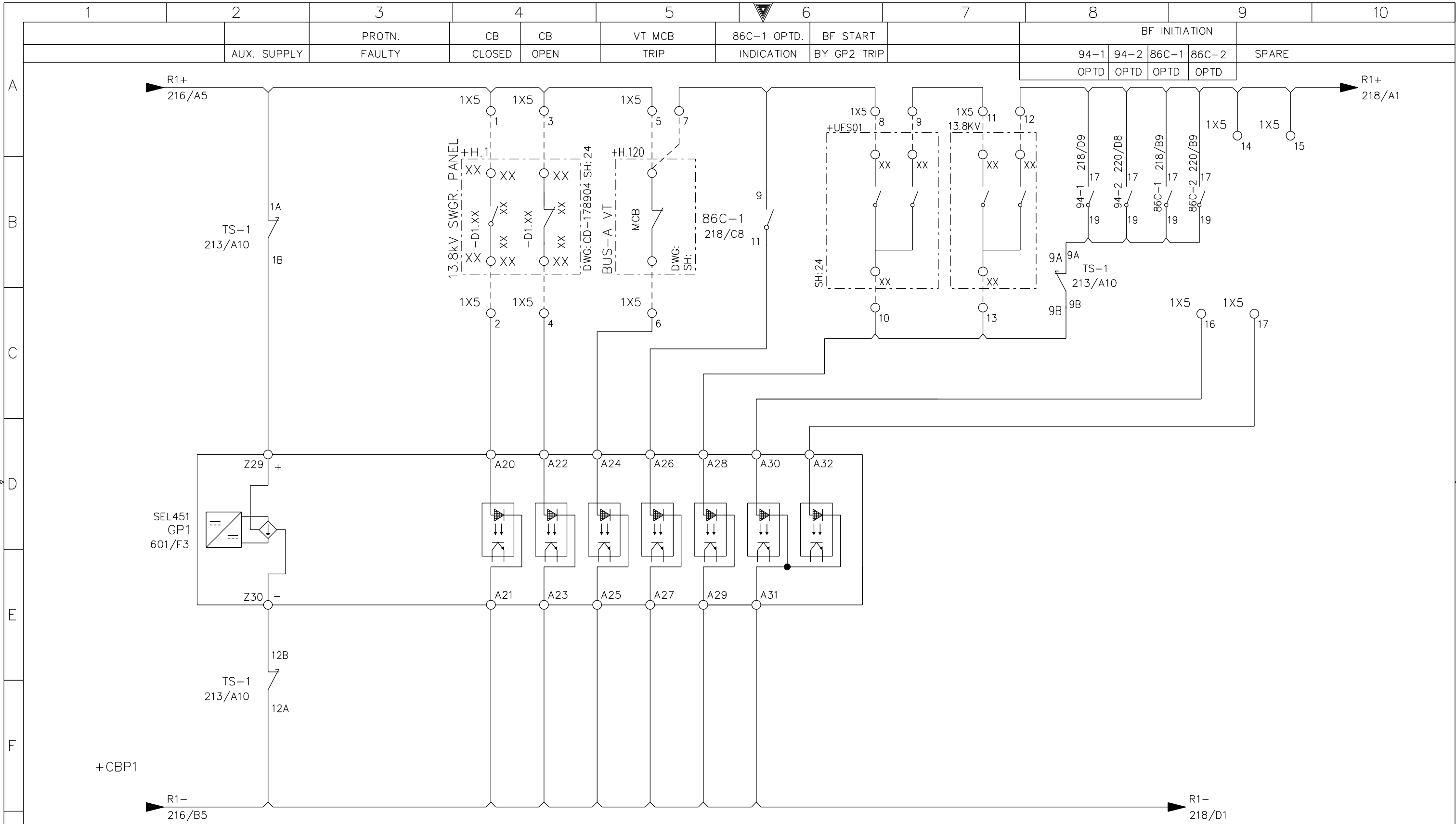
National Grid sa

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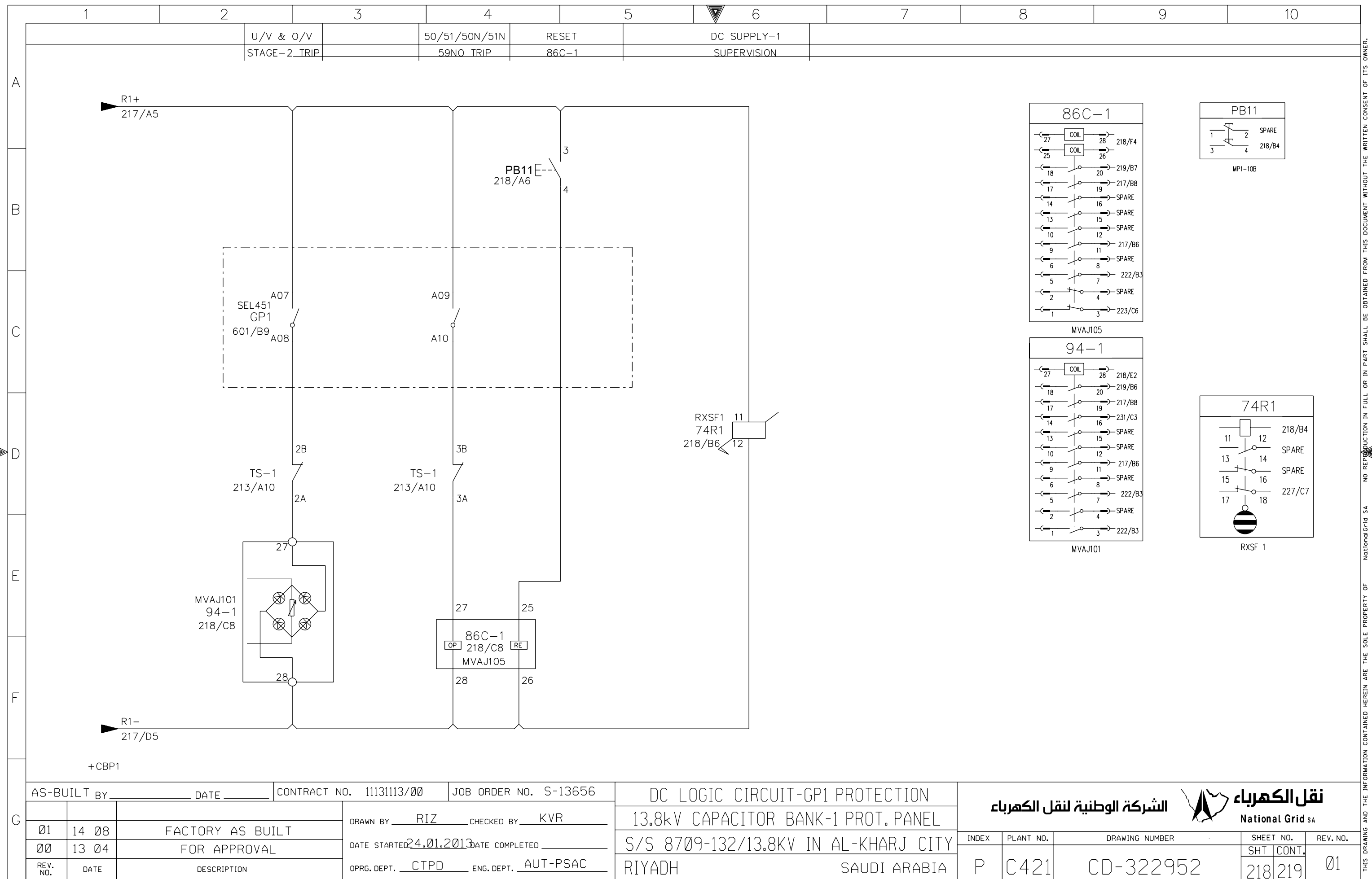


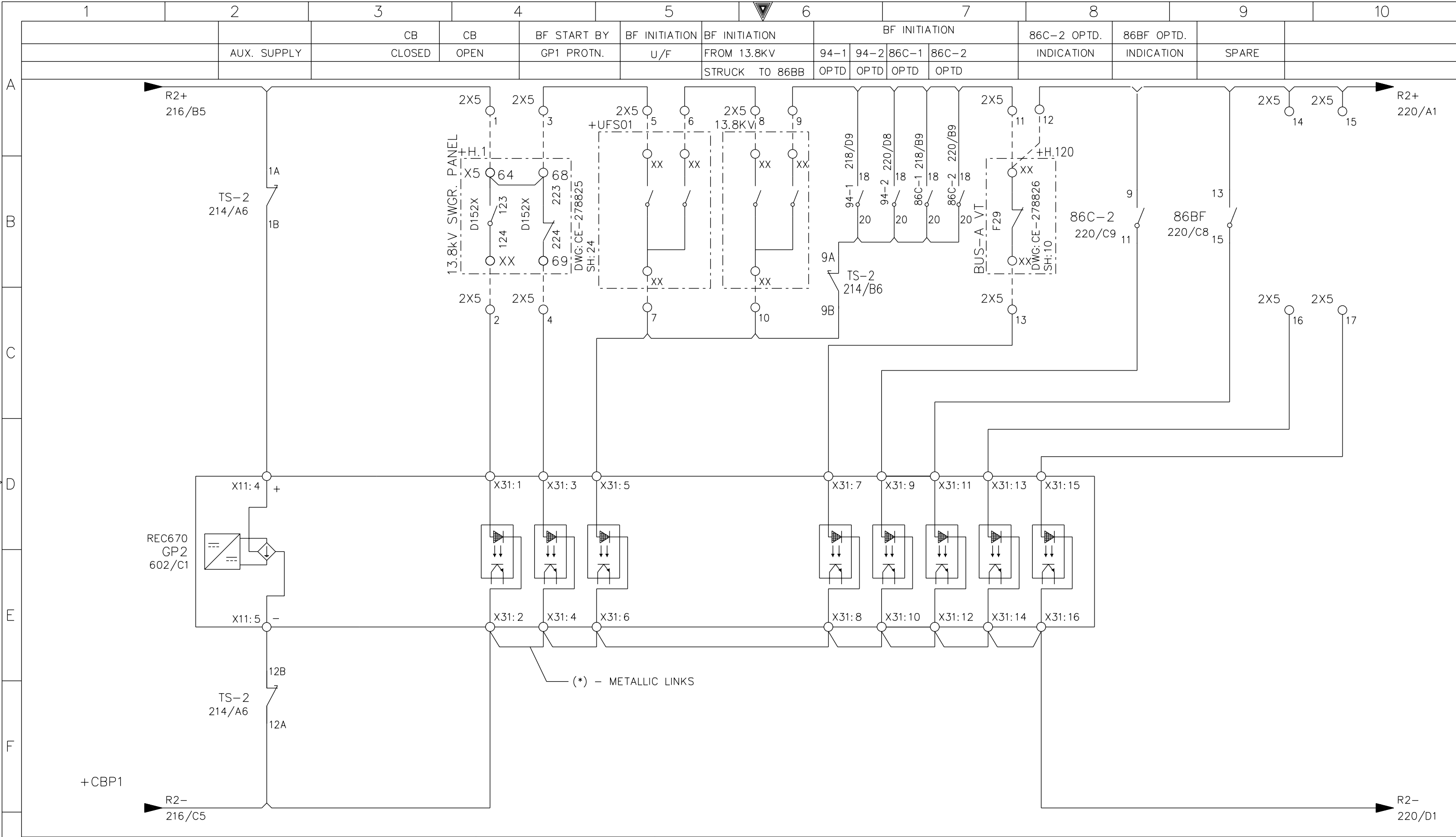






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				DRAWN BY <u>RIZ</u> CHECKED BY <u>KVR</u>		13.8kV CAPACITOR BANK-1 PROT. PANEL							
	01	14 08	FACTORY AS BUILT		DATE STARTED <u>24.01.2013</u> DATE COMPLETED _____		S/S 8709-132/13.8KV IN AL-KHARJ CITY						
	00	13 04	FOR APPROVAL		OPRG. DEPT. <u>CTPD</u> ENG. DEPT. <u>AUT-PSAC</u>		RIYADH SAUDI ARABIA						
	REV. NO.	DATE	DESCRIPTION				INDEX	PLANT NO.	DRAWING NUMBER		SHEET NO.		REV. NO.
						P	C421	CD-322952		SHT	CONT.	01	
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AS-BUILT BY _____ DATE _____			CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656	
01	14 08	FACTORY AS BUILT FOR APPROVAL	DRAWN BY <u>      RIZ      </u> CHECKED BY <u>      KVR      </u>			
00	13 04		DATE STARTED <u>24.01.2013</u> DATE COMPLETED _____			
REV. NO.	DATE	DESCRIPTION	OPRG. DEPT. <u>      CTPD      </u> ENG. DEPT. <u>      AUT-PSAC      </u>			

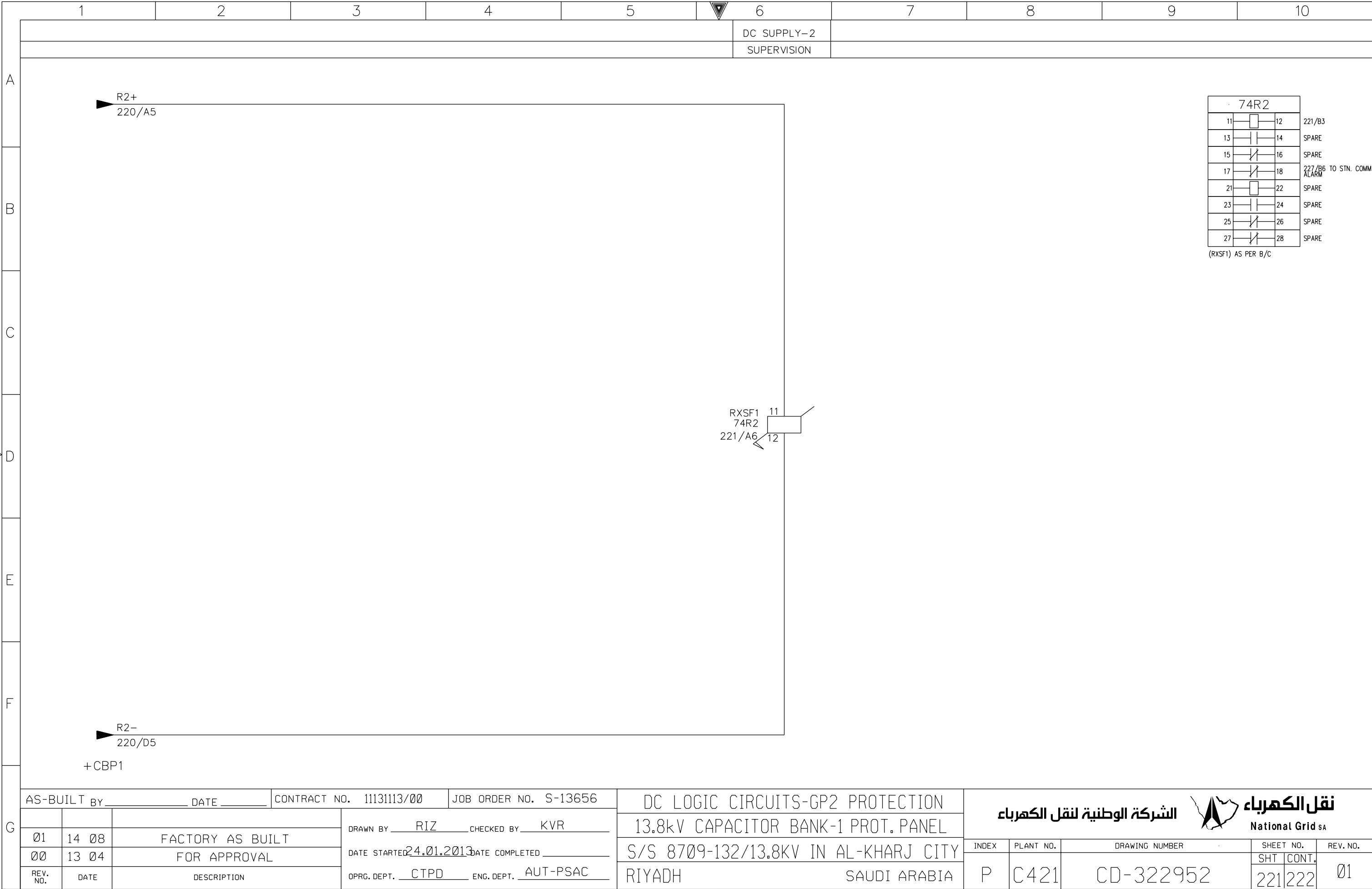
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13.8kV CAPACITOR BANK-1 PROT. PANEL	
S/S 8709-132/13.8KV IN AL-KHARJ CITY	
RIYADH	SAUDI ARABIA

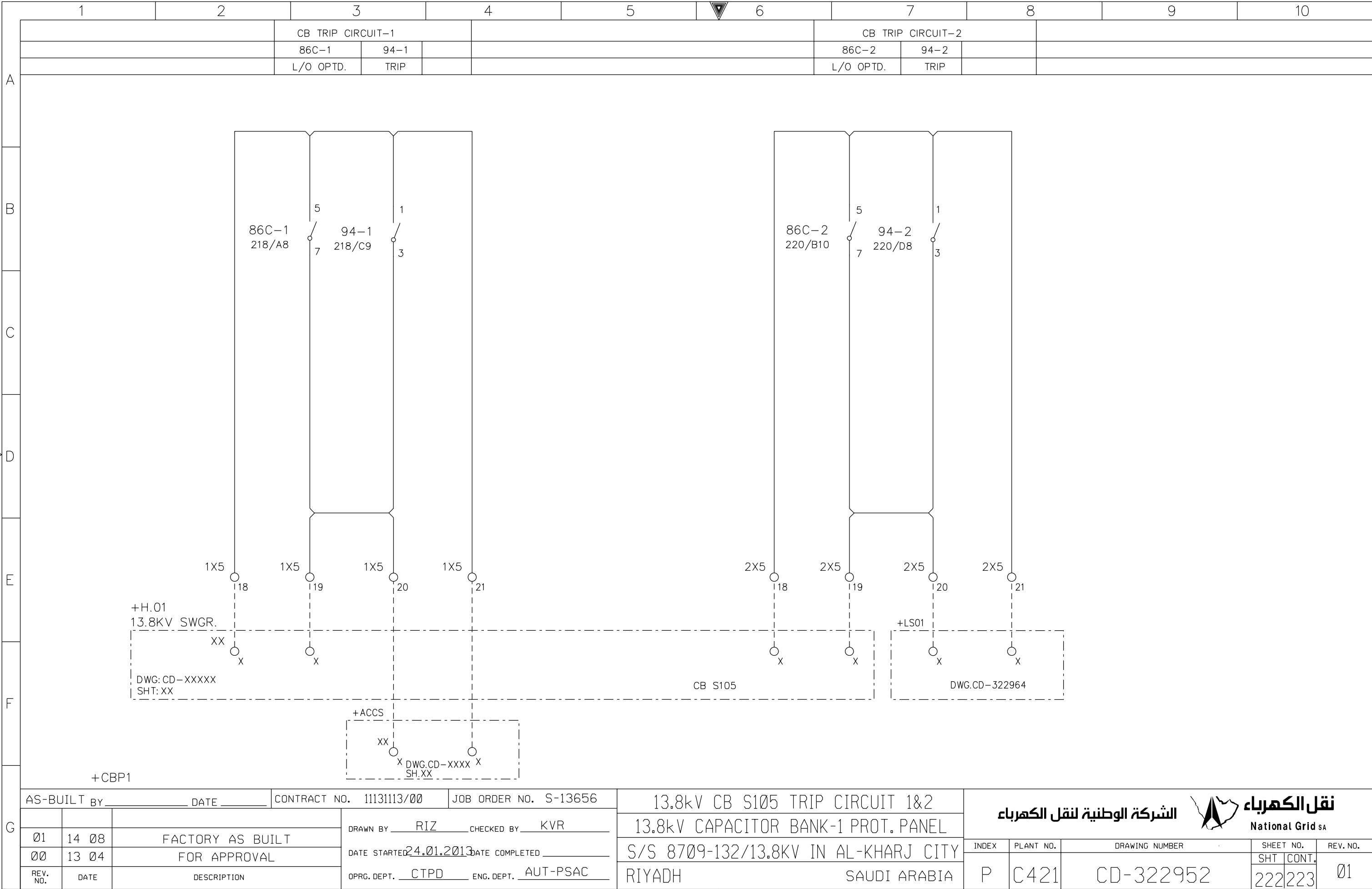
الشركة الوطنية لنقل الكهرباء

National Grid sa

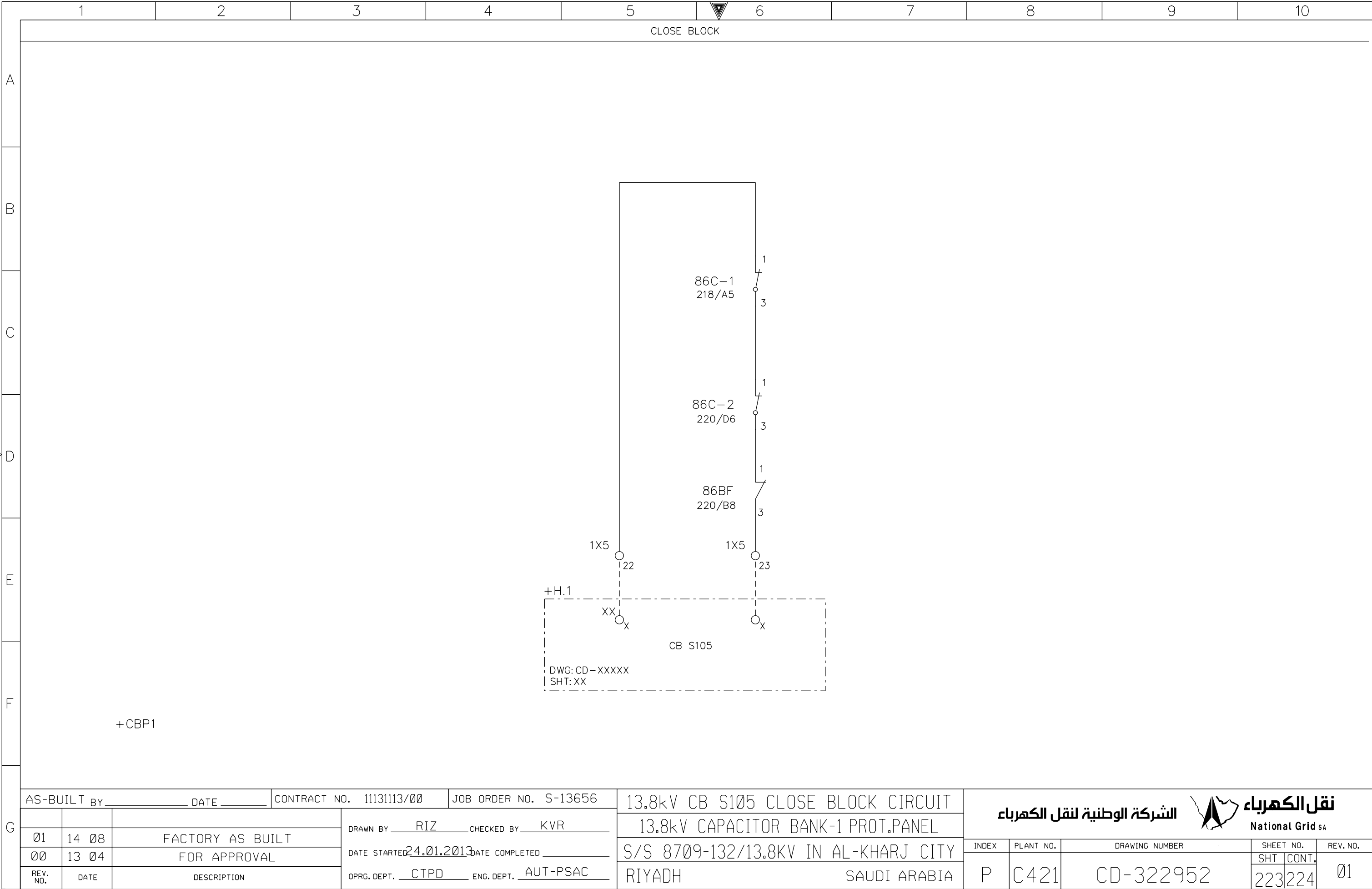
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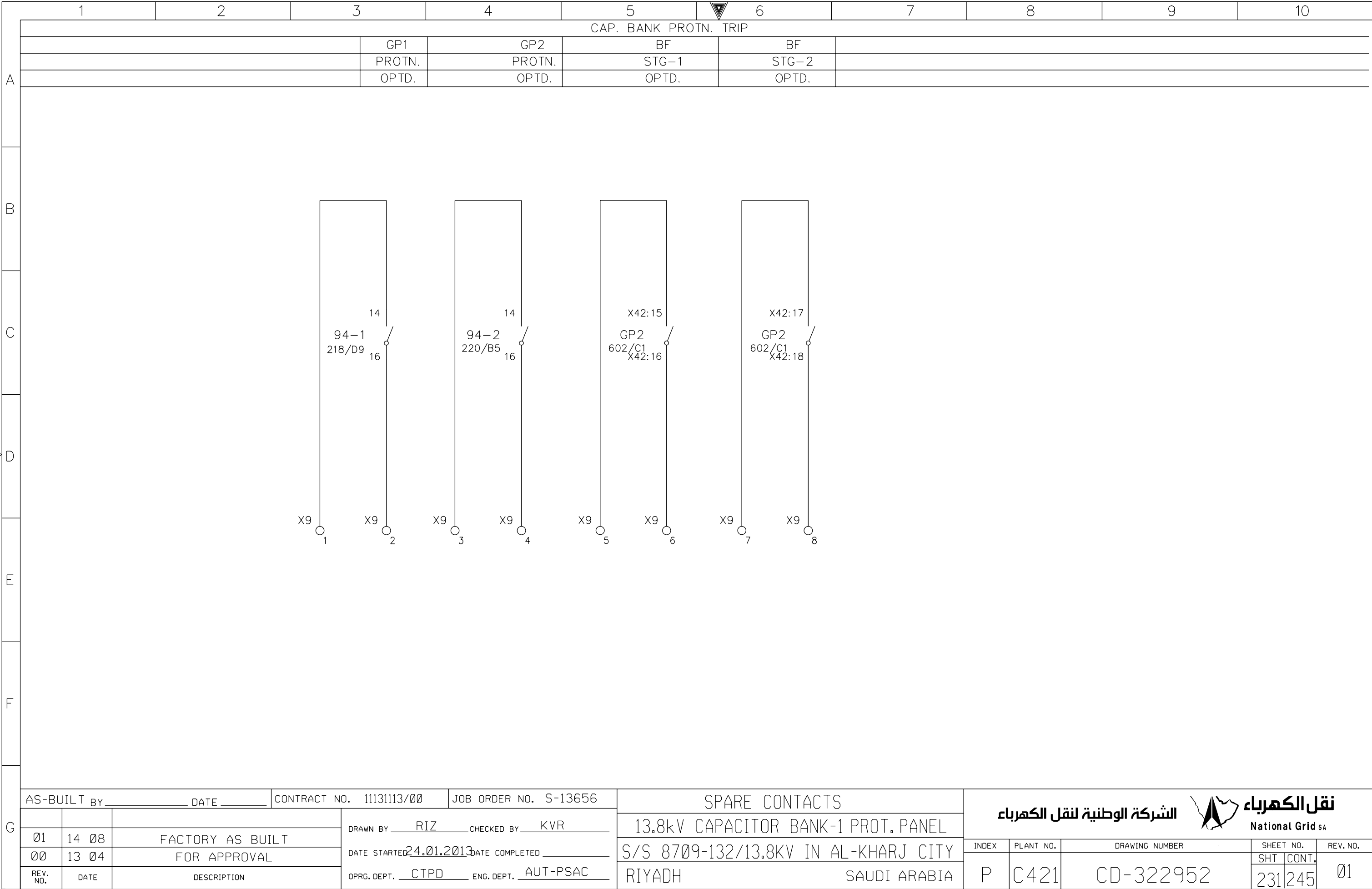


AS-BUILT BY _____ DATE _____			CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		13.8kV CB S105 CLOSE BLOCK CIRCUIT		<div>الشركة الوطنية لنقل الكهرباء</div> <div> <b>نقل الكهرباء</b> National Grid sa</div>						
			DRAWN BY <u>RIZ</u> CHECKED BY <u>KVR</u>				13.8kV CAPACITOR BANK-1 PROT.PANEL		INDEX	PLANT NO.	DRAWING NUMBER		SHEET NO.		REV. NO.
01	14 08	FACTORY AS BUILT		DATE STARTED <u>24.01.2013</u> DATE COMPLETED _____				S/S 8709-132/13.8KV IN AL-KHARJ CITY					SHT	CONT.	
00	13 04	FOR APPROVAL		OPRG. DEPT. <u>CTPD</u> ENG. DEPT. <u>AUT-PSAC</u>				RIYADH SAUDI ARABIA	P	C421	CD-322952		223	224	01
REV. NO.	DATE	DESCRIPTION													

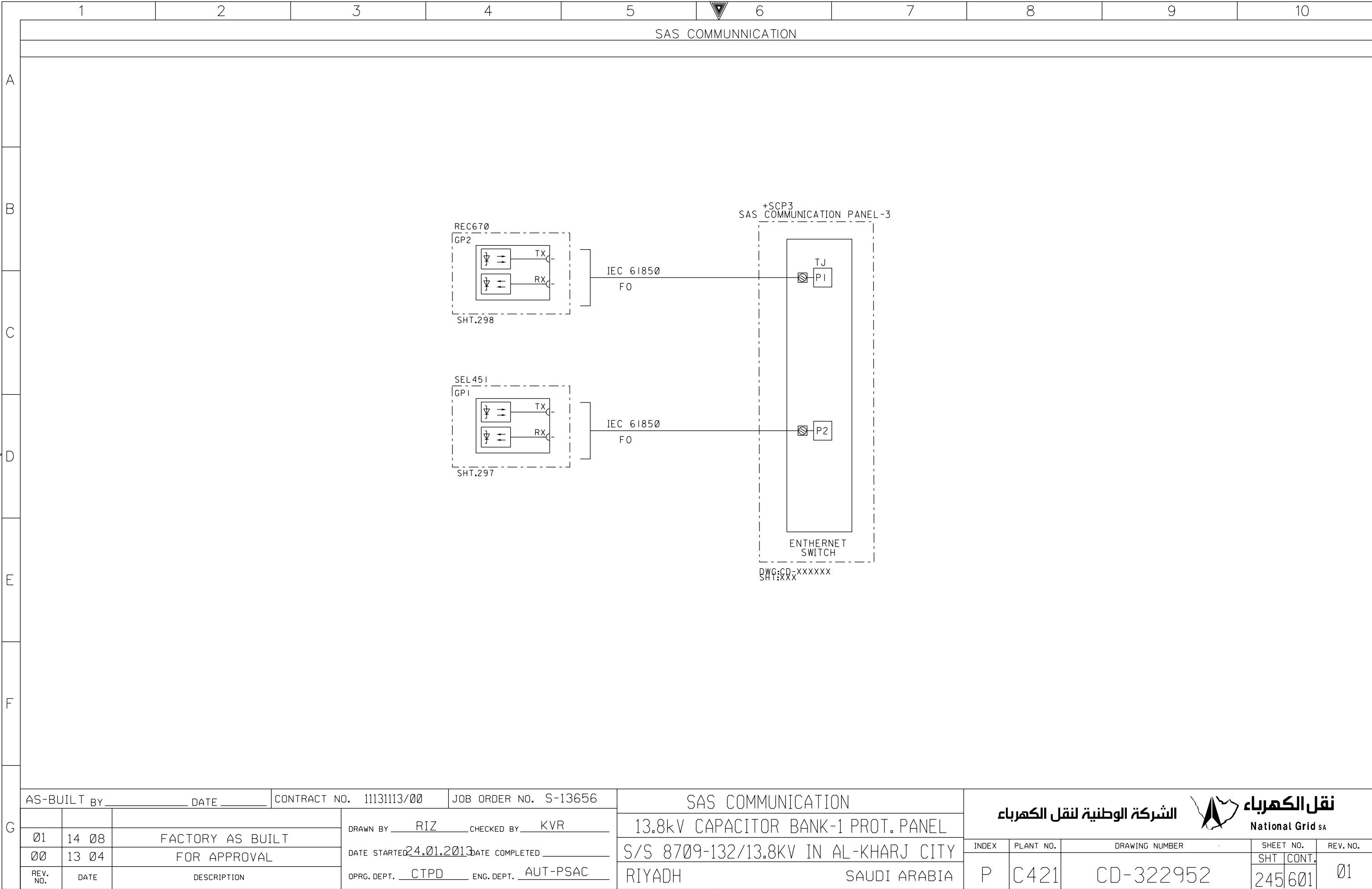
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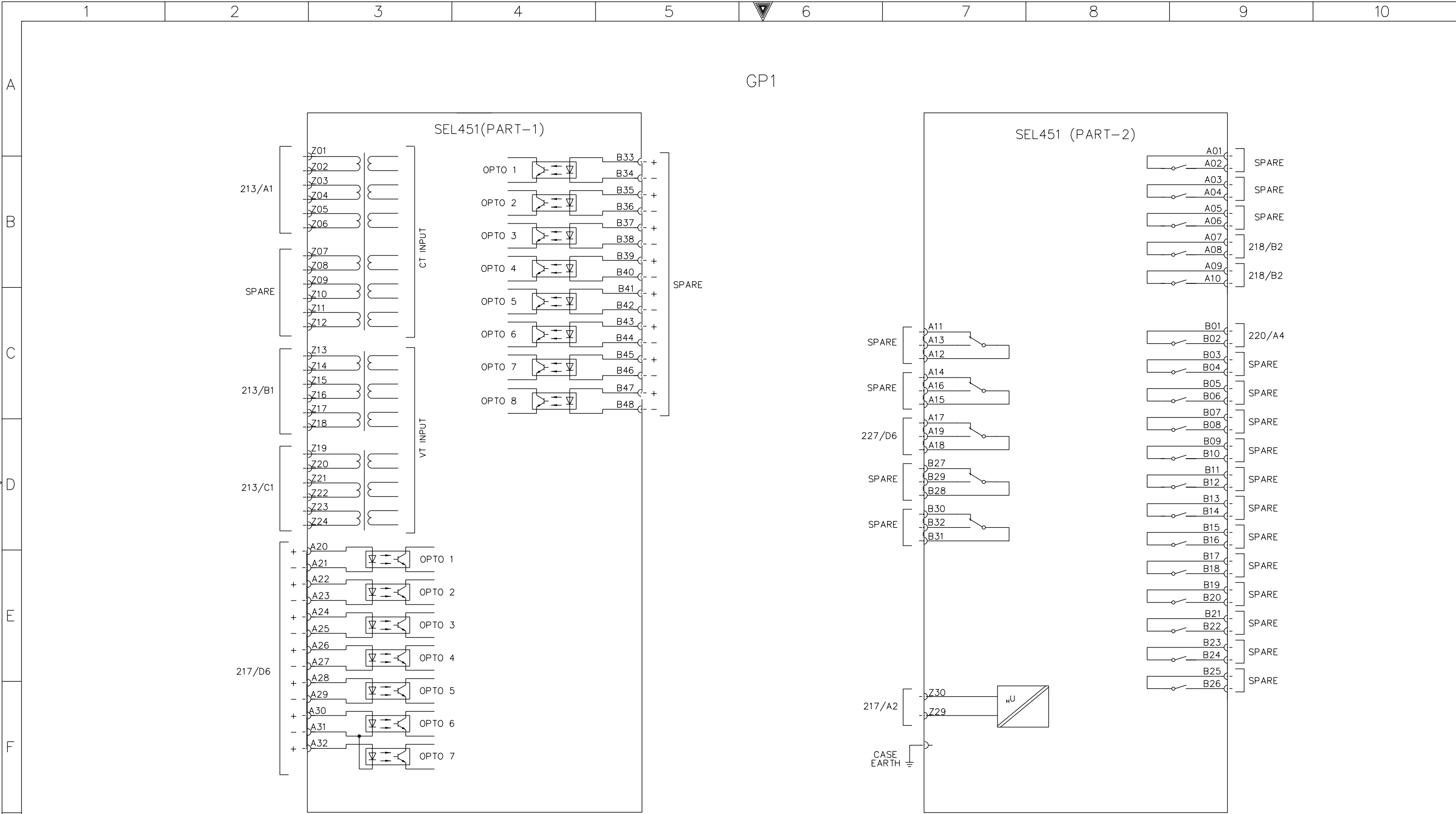






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AS-BUILT BY _____ DATE _____			CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656	
01	14 08	FACTORY AS BUILT FOR APPROVAL	DRAWN BY RIZ		CHECKED BY KVR	
00	13 04		DATE STARTED 24.01.2013		DATE COMPLETED _____	
REV. NO.	DATE	DESCRIPTION	OPRG. DEPT. CTPD		ENG. DEPT. AUT-PSAC	

BLOCK REFERENCE-GP1					
13.8kV CAPACITOR BANK-1 PROT. PANEL					
S/S 8709-132/13.8KV IN AL-KHARJ CITY					
RIYADH SAUDI ARABIA					

الشركة الوطنية لنقل الكهرباء							نقل الكهرباء		National Grid sa	
INDEX	PLANT NO.	DRAWING NUMBER			SHEET NO.		REV. NO.			
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THIS DRAWING AND THE INFORMATION CONTAINED HEREIN ARE THE SOLE PROPERTY OF National Grid SA NO REPRODUCTION IN FULL OR IN PART SHALL BE OBTAINED FROM THIS DOCUMENT WITHOUT THE WRITTEN CONSENT OF ITS OWNER.





	BLOCK REFERENCE -GP2
	13.8kV CAPACITOR BANK-1 PROT.PANEL
	S/S 8709-132/13.8KV IN AL-KHARJ CITY
	RIYADH SAUDI ARABIA

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National Grid SA

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A	INTERNAL REFERENCE		X3 AC CKT.		INTERNAL REFERENCE		1X1 CT CKTS.		INTERNAL REFERENCE		1X2 CT CKTS.		INTERNAL REFERENCE		1X4 DC CKTS.		INTERNAL REFERENCE		1X5 CONTROL & PROTN.		INTERNAL REFERENCE		2X5 CONTROL & PROTN.	
	211/A2		1		213/A7		1		213/D7		1		216/B3		1		217/A4		1		219/A4		1	
	211/A5		2		213/A7		2		213/E7		2		216/B3		2		217/C4		2		219/C4		2	
	211/A2		3		213/B7		3		213/E7		3		216/C3		3		217/C4		3		219/C4		3	
	211/A5		4		213/B7		4		213/E7		4		SPARE		4		217/A5		4		219/A5		4	
	211/A2		5		213/B7		5		213/F7		5		SPARE		5		217/C5		5		219/C5		5	
	211/A5		6		213/B7		6		213/F7		6		SPARE		6		217/A5		6		219/A5		6	
	211/A2		7		213/C7		7		SPARE		7		SPARE		7		217/A6		7		219/A6		7	
	211/A5		8		213/C7		8		SPARE		8		SPARE		8		217/A7		8		219/A7		8	
	SPARE		9		SPARE		9		SPARE		9		SPARE		9		217/C6		9		219/C6		9	
SPARE		10		SPARE		10		SPARE		10		SPARE		10		217/A7		10		219/A7		10		
B	INTERNAL REFERENCE		XSH SPACE HEATER		INTERNAL REFERENCE		2X1 CT CKTS.		INTERNAL REFERENCE		1X2 CT CKTS.		INTERNAL REFERENCE		2X4 DC CKTS.		INTERNAL REFERENCE		1X5 CONTROL & PROTN.		INTERNAL REFERENCE		2X5 CONTROL & PROTN.	
	211/C4		1		214/A7		1		215/C7		1		216/D3		1		217/A7		11		219/A7		11	
	211/D4		2		214/A7		2		215/C7		2		216/D3		2		217/A7		12		219/A7		12	
	SPARE		3		214/B7		3		215/D7		3		216/E3		3		217/C7		13		219/C7		13	
	INTERNAL REFERENCE		XTJ T.JACK		214/B7		4		215/D7		4		SPARE		4		217/A9		14		219/A9		14	
	211/B2		1		214/B7		5		SPARE		5		SPARE		5		217/A9		15		219/A9		15	
	211/B2		2		214/C7		6		INTERNAL REFERENCE		X5 CONTROL & PROTN.		SPARE		6		217/C9		16		219/C9		16	
	211/B2		3		214/C7		7		224/D5		1		SPARE		7		217/A9		17		219/A9		17	
	211/B2		4		214/C7		8		224/D5		2		SPARE		8		217/A9		18		219/A9		18	
	SPARE		5		214/E7		9		SPARE		3		SPARE		9		217/A9		19		219/A9		19	
C	INTERNAL REFERENCE		X61 ALARM CKT		214/E7		10		SPARE		4		SPARE		10		222/E2		20		222/E6		20	
	216/B3		1		214/E7		11		INTERNAL REFERENCE		X9 SPARE CKT		216/D3		1		222/E3		21		222/E7		21	
	216/B3		2		214/E7		12		224/D5		1		216/D3		2		222/E4		22		222/E8		22	
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	227/E4		4		SPARE		14		SPARE		3		SPARE		4		223/E5		24		SPARE		24	
	227/E6		5		SPARE		15		SPARE		4		SPARE		5		223/E6		25		SPARE		25	
	227/E7		6		SPARE		16		INTERNAL REFERENCE		X5 CONTROL & PROTN.		SPARE		6		SPARE		26		SPARE		26	
	SPARE		7		SPARE		17		231/E3		1		SPARE		7		SPARE		27		SPARE		27	
	SPARE		8		SPARE		18		231/E3		2		SPARE		8		SPARE		28		SPARE		28	
	SPARE		9		SPARE		19		231/E4		3		SPARE		9		SPARE		29		SPARE		29	
D	SPARE		10		SPARE		20		231/E4		4		SPARE		10		SPARE		30		SPARE		30	
	INTERNAL REFERENCE		X61 ALARM CKT		214/D7		10		231/E5		5		SPARE		11		SPARE		31		SPARE		31	
	216/B3		1		214/D7		11		231/E5		6		SPARE		12		SPARE		32		SPARE		32	
	216/B3		2		214/E7		12		231/E6		7		SPARE		13		SPARE		33		SPARE		33	
	227/E3		3		214/E7		13		231/E6		8		SPARE		14		SPARE		34		SPARE		34	
	227/E4		4		SPARE		14		231/E6		9		SPARE		15		SPARE		35		SPARE		35	
	227/E6		5		SPARE		15		INTERNAL REFERENCE		X9 SPARE CKT		SPARE		16		SPARE		36		SPARE		36	
	227/E7		6		SPARE		16		231/E3		1		SPARE		17		SPARE		37		SPARE		37	
	SPARE		7		SPARE		17		231/E3		2		SPARE		18		SPARE		38		SPARE		38	
	SPARE		8		SPARE		18		231/E4		3		SPARE		19		SPARE		39		SPARE		39	
E	SPARE		9		SPARE		19		231/E4		4		SPARE		20		SPARE		40		SPARE		40	
	SPARE		10		SPARE		20		231/E5		5		SPARE		21		SPARE		41		SPARE		41	
	INTERNAL REFERENCE		X61 ALARM CKT		214/E7		10		231/E5		6		SPARE		22		SPARE		42		SPARE		42	
	216/B3		1		214/E7		11		231/E6		7		SPARE		23		SPARE		43		SPARE		43	
	216/B3		2		214/E7		12		INTERNAL REFERENCE		X9 SPARE CKT		SPARE		24		SPARE		44		SPARE		44	
	227/E3		3		214/E7		13		231/E3		1		SPARE		25		SPARE		45		SPARE		45	
	227/E4		4		214/E7		14		231/E3		2		SPARE		26		SPARE		46		SPARE		46	
	227/E6		5		214/E7		15		231/E4		3		SPARE		27		SPARE		47		SPARE		47	
	227/E7		6		214/E7		16		231/E4		4		SPARE		28		SPARE		48		SPARE		48	
	SPARE		7		214/E7		17		231/E5		5		SPARE		29		SPARE		49		SPARE		49	
F	SPARE		8		214/E7		18		231/E5		6		SPARE		30		SPARE		50		SPARE		50	
	SPARE		9		214/E7		19		231/E6		7		SPARE		31		SPARE		51		SPARE		51	
	SPARE		10		214/E7		20		INTERNAL REFERENCE		X9 SPARE CKT		SPARE		32		SPARE		52		SPARE		52	
	INTERNAL REFERENCE		X61 ALARM CKT		214/E7		21		231/E6		8		SPARE		33		SPARE		53		SPARE		53	
	216/B3		1		214/E7		22		231/E6		9		SPARE		34		SPARE		54		SPARE		54	
	216/B3		2		214/E7		23		231/E6		10		SPARE		35		SPARE		55		SPARE		55	
	227/E3		3		214/E7		24		INTERNAL REFERENCE		X9 SPARE CKT		SPARE		36		SPARE		56		SPARE		56	
	227/E4		4		214/E7		25		231/E3		1		SPARE		37		SPARE		57		SPARE		57	
	227/E6		5		214/E7		26		231/E3		2		SPARE		38		SPARE		58		SPARE		58	
	227/E7		6		214/E7		27		231/E4		3		SPARE		39		SPARE		59		SPARE		59	
G	SPARE		7		214/E7		28		231/E4		4		SPARE		40		SPARE		60		SPARE		60	
	SPARE		8		214/E7		29		231/E5		5		SPARE		41		SPARE		61		SPARE		61	
	SPARE		9		214/E7		30		231/E5		6		SPARE		42		SPARE		62		SPARE		62	
	SPARE		10		214/E7		31		231/E6		7		SPARE		43		SPARE		63		SPARE		63	
	INTERNAL REFERENCE		X61 ALARM CKT		214/E7		32		INTERNAL REFERENCE		X9 SPARE CKT		SPARE		44		SPARE		64		SPARE		64	
	216/B3		1		214/E7		33		231/E6		8		SPARE		45		SPARE		65		SPARE		65	
	216/B3		2		214/E7		34		231/E6		9		SPARE		46		SPARE		66		SPARE		66	
	227/E3		3		214/E7		35		231/E6		10		SPARE		47		SPARE		67		SPARE		67	
	227/E4		4		214/E7		36		INTERNAL REFERENCE		X9 SPARE CKT		SPARE		48		SPARE		68		SPARE		68	
	227/E6		5		214/E7		37		231/E3		1		SPARE		49		SPARE		69		SPARE		69	
227/E7		6		214/E7		38		231/E3		2		SPARE		50		SPARE		70		SPARE		70		
SPARE		7		214/E7		39		231/E4		3		SPARE		51		SPARE		71		SPARE		71		
SPARE		8		214/E7		40		231/E4		4		SPARE		52		SPARE		72		SPARE		72		
SPARE		9		214/E7		41		231/E5		5		SPARE		53		SPARE		73		SPARE		73		
SPARE		10		214/E7		42		231/E5		6		SPARE		54		SPARE		74		SPARE		74		
AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		TERMINAL BLOCK ALLOCATION		13.8kV CAPACITOR BANK-1 PROT. PANEL		الشركة الوطنية لنقل الكهرباء		National Grid sa		INDEX		PLANT NO.		DRAWING NUMBER		SHEET NO.		REV. NO.		
01		14 08		FACTORY AS BUILT		DRAWN BY RIZ CHECKED BY KVR		S/S 8709-132/13.8KV IN AL-KHARJ CITY		National Grid sa		National Grid sa		P		C421		CD-322952		SHT		CONT.		
00		13 04		FOR APPROVAL		DATE STARTED 24.01.2013 DATE COMPLETED _____		RIYADH SAUDI ARABIA		National Grid sa		National Grid sa		P		C421		CD-322952		605		NIL		
REV. NO.		DATE		DESCRIPTION		OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC		SAUDI ARABIA		National Grid sa		National Grid sa		P		C421		CD-322952		605		NIL		